

## **REMARKS/ARGUMENTS**

Claims 1-23 are pending in the present application. Claims 1-2, 6-8, 13-14, 17-18, and 21-23 were amended. Reconsideration of the claims is respectfully requested.

### **I. Claim Amendments**

Applicants have amended claims 1, 8, 14, 18, and 22-23 to recite: “end nodes in the InfiniBand system area network being final destinations for packets; end nodes not including switches or routers, wherein packets are not routed through the end nodes”. Applicants have amended claims 2, 14, and 22 to recite: “wherein the multicast group is not created by a switch”. Support can be found in the specification on page 7, lines 10-14; and in Figure 1.

### **II. 35 U.S.C. § 103, Obviousness**

The Examiner has rejected claims 1-23 under 35 U.S.C. § 103(a) as being unpatentable over SearchStorage, (SearchStorage.com definition of InfiniBand, dated June 5, 2001, hereinafter referred to as “SearchStorage”), Pentakalos (An Introduction to the InfiniBand Architecture, Odysseas Pentakalos, dated February 4, 2002, hereinafter referred to as “Pentakalos”) and *Haggerty et al.*, Multicast Switching, U.S. patent No. 6,331,983, dated December 18, 2001 (hereinafter referred to as “*Haggerty*”). This rejection is respectfully traversed.

The Examiner states that *Pentakalos* does not teach InfiniBand switches performing the functions of Applicants’ claims. The Examiner states that these functions were well known in the art and provides *Haggerty* as an example.

*Haggerty* teaches a multicast switching system in which the switches perform the operations to create, destroy, and manage multicast groups. For example, *Haggerty* teaches: “A method of handling multicast packets is provided, wherein a source switch receives a multicast packet on an access port from a source host, the source switch determines a group address from the multicast packet, and the source switch composes and sends a sender present message, containing the group address and source host address, to other switches. This inter-switch communication enables the switches in the network to learn which sender host has multicast packets to send to a designated group.” Column 7, lines 34-44.

In contradistinction, Applicants claim receiving, by a Subnet Administration in a first InfiniBand end node, a join request from a second InfiniBand end node for joining a multicast group, and if the multicast group does not exist, creating, by the Subnet Administration in the first InfiniBand end node, the multicast group. End nodes are described as final destinations for packets, and not including switches or routers. Packets are not routed through the end nodes. Therefore, *Haggerty* teaches away from

Applicants' claims because *Haggerty* teaches the switches performing operations, while in Applicants' claims, switches are explicitly excluded from end nodes.

The Examiner states:

*Haggerty* teaches a method for performing similar multicasting operations on similar networks. In particular, *Haggerty* teaches a method for managing multicast groups comprising: receiving, by a first node (first switch), a leave request (leave group announcement message) from a second node (second switch) for leaving a multicast group, wherein the multicast group has a first member at a third node (host) connected to a first switch (see *Haggerty* at fig. 5, 17, 18; col. 31, ll. 52 - col. 32, ll. 14); determining whether a single node remains in the multicast group (see *Haggerty* at fig. 18; col. 31, ll. 66 - col. 32, ll. 14); and if a single node remains in the multicast group, routing, by the Subnet Administration, the first switch to discard all packets for the multicast group (see *Haggerty* at fig. 18; col. 31, ll. 66 - col. 32, ll. 14).

*Haggerty's* method for managing multicast groups provides advantages such as ensuring that multicast traffic is transmitted onto switched networks without generating excessive traffic and enabling the efficient transmission of multicast traffic in a switched network (see *Haggerty* at col. 7, ll. 5-20). It would have been obvious to one of ordinary skill in the art to use *Haggerty's* method for managing multicast groups in an InfiniBand network (see, e.g., *Pentakalos* at fig. 2) for at least the same reasons (see *Haggerty* at col. 7, ll. 5-20).

As to claims 2, 4, 8, 11, 15, 18, and 23, these claims are rejected for the same reasons as claims 1, 14, and 22 and because InfiniBand identifies multicast groups using MLIDs (see Specification at pages 2-3).

Final Office Action dated June 19, 2007, pages 3-5.

The Examiner states that *Haggerty* teaches "receiving, by a first node (first switch), a leave request, (leave group announcement message) from a second node (second switch) for leaving a multicast group" referring to *Haggerty's* Figures 5, 17, and 18; and column 31, line 52, through column 32, line 14.

*Haggerty* teaches when a switch detects there are no local receivers for a multicast group, the switch announces a "switch leave group" message to other switches. See *Haggerty*, Figure 17. *Haggerty* also teaches when a switch receives a "switch leave group" message, the switch checks a database to determine if there are any more switches receiving packets for this multicast group on the switch network. If there are no more switches, the switch notifies the router that the router no longer needs to forward packets for this group to the switch network. See *Haggerty*, column 31, line 66, through column 32, line 15. Therefore, *Haggerty* clearly teaches a switch performing these operations.

The combination of *Pentakalos* and *Haggerty* does not teach or suggest Applicants' claims because the combination does not teach or suggest receiving, by a Subnet Administration in a first InfiniBand end node, a join request from a second InfiniBand end node for joining a multicast group, and if the multicast group does not exist, creating, by the Subnet Administration in the first InfiniBand end node, the multicast group. The combination also does not teach or suggest receiving, by a Subnet Administration in a first InfiniBand end node, a leave request from a second end node for leaving a

multicast group; and if a single end node remains in the multicast group, routing, by the Subnet Administration in the first InfiniBand end node, the first switch to discard all packets for the multicast group. Therefore, the combination does not render Applicants' claims obvious. Therefore, the rejection of claims 1-23 under 35 U.S.C. § 103(a) has been overcome.

### **III. Conclusion**

It is respectfully urged that the subject application is patentable over the cited prior art and is now in condition for allowance.

The examiner is invited to call the undersigned at the below-listed telephone number if in the opinion of the examiner such a telephone conference would expedite or aid the prosecution and examination of this application.

DATE: September 19, 2007

Respectfully submitted,

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